III. AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original): An automatic staining apparatus comprising:

    at least one reagent container positioned within a reagent section;

    at least one sample;

    at least two staining sections separated by the reagent section;

    a robotic element adapted to affect said reagent container and said sample;

    a control element to which said robotic element is responsive; and

    an image-capture 2-D optical sensor configured to two dimensionally image at least one element in said automatic staining apparatus.

2. (Original): An apparatus according to claim 1, wherein the optical sensor is adapted to locate pre-selected reference features for self-calibration of the robotic element.

3. (Currently amended): An apparatus according to claim 1 [[or 2]], wherein the optical sensor is adapted to record an image of the finalised sample after said sample has been subjected to a staining protocol.

4. (Original): An apparatus according to claim 1, wherein at least one element comprises an element selected from a group consisting of: a two-dimensional high-resolution symbology code, a datamatrix code, a bar code, an adhesive label, a two dimensional symbology zone, and a human readable text zone; and wherein the optical sensor is adapted to record an image of the finalised sample after said tissue sample has been subjected to a staining protocol.

5.   (Original):   An apparatus according to claim 1, wherein the optical sensor is
configured to identify a feature selected from a group consisting of: the texture of
the sample, the outline of the sample, a visual property of the sample, and an
individual identification feature of the sample; and wherein the optical sensor is
adapted to record an image of the finalised sample after said sample has been
subjected to a staining protocol.

6.   (Original):   A method of identifying at least one property in an automatic
staining apparatus comprising the steps of:
      providing at least one sample;
      providing at least one reagent container;
      providing a robotic element adapted to affect said reagent container and
said sample;
      optically sensing a two dimensional image of at least one element in said
automatic staining apparatus;
      recording relevant image data;
      recording robotic element calibration reference points in the apparatus;
and
      feeding said image data to a control element to which said robotic element
is responsive.

7.   (Original):   A method of staining samples in an automatic staining apparatus
comprising the steps of:
      providing at least one sample;
      providing slides in racks;
      providing at least one reagent container;
      providing a robotic element adapted to affect said reagent container and
said sample;
      providing an optical sensor responsive to said robotic element and adapted
to sense a two dimensional image of at least one element in said automatic
staining apparatus;

recording relevant image data;

recording robotic element calibration reference positions for said racks; and

feeding said image data to a control element to which said robotic element is responsive.

8. (Original):   An automatic staining apparatus comprising:

at least one reagent container;

at least one sample;

a robotic element adapted to affect said reagent container and said sample;

a control element to which said robotic element is responsive; and

an optical sensor adapted to locate pre-selected reference features for self-calibration of the robotic element.

9. (Original):   An automatic staining apparatus comprising:

at least one reagent container in a reagent section;

at least one first sample contained on a slide in a first slide section;

at least one second sample contained on a slide in a second slide section, wherein said first slide section and said second slide section are separated by said reagent section;

a robotic element adapted to affect said reagent container and said first and said second samples; and

a control element to which said robotic element is responsive.

10. (Original):   An automatic staining apparatus comprising:

at least one reagent container;

at least one sample;

a robotic element adapted to affect said reagent container and said sample;

a control element to which said robotic element is responsive; and

an image-capture 2-D optical sensor configured to two dimensionally image at least one element in said automatic staining apparatus, wherein

said at least one element comprises an optical identification element having reiterated information.

11. (Original): An apparatus according to claim 10 wherein said reiterated information comprises multiple reiterated information.

12. (Original): An apparatus according to claim 10 wherein said reiterated information comprises redundant information.

13. (Currently amended): An apparatus according to claim 10[[, 12]] wherein said at least one element comprises an optical identification element.

14. (Original): An apparatus according to claim 11 wherein said optical identification element comprises a two-dimensional high-resolution symbology code.

15. (Original): An apparatus according to claim 11 wherein said optical identification element comprises a datamatrix code.

16. (Original): An apparatus according to claim 11 wherein said optical identification element comprises a bar code.

17. (Original): An automatic staining apparatus comprising:
   at least one reagent container;
   at least one sample;
   a robotic element adapted to affect said reagent container and said tissue sample;
   a control element to which said robotic element is responsive;
   an image-capture 2-D optical sensor configured to two dimensionally image at least one element in said automatic staining apparatus; and
   a computer image biological analysis element.

18.   (Original):   An apparatus according to claim 17 wherein said optical sensor comprises a camera.

19.   (Original):   An apparatus according to claim 18, wherein said camera comprises a CCD element.

20.   (Original):   An apparatus according to claim 17, wherein the samples comprises biological samples accommodated on slides.

21.   (Original):   A method of identifying at least one property in an automatic staining apparatus comprising the steps of:

provided at least one sample;

providing at least one reagent container;

providing a robotic element adapted to affect said reagent container and said sample;

optically sensing a two dimensional image of at least one element in said automatic staining apparatus;

recording relevant image data;

feeding said image data to a control element to which said robotic element is responsive; and

biologically analysing image data of said at least one sample with a computer.

22.   (Original):   A method according to claim 21, wherein said step of optically sensing the two dimensional image of at least one element in said automatic staining apparatus comprises the step of utilizing a camera.

23.   (Original):   A method according to claim 22, wherein said step of utilizing a camera comprises the step of utilizing a CCD element.

24.   (Currently amended): A method according to claim 21, ~~22 or 23,~~ wherein said step of providing at least one sample comprises the step of utilizing a slide.

25.   (Original):   A method of staining tissue samples in an automatic staining apparatus comprising the steps of:

    providing at least one sample;

    providing at least one reagent container;

    providing a robotic element adapted to affect said reagent container and said sample;

    providing an optical sensor responsive to said robotic element and adapted to sense a two dimensional image of at least one element in said automatic staining apparatus;

    recording relevant image data;

    feeding said image data to a control element to which said robotic element is responsive; and

    biologically analysing image data of said at least one sample with a computer.

26.   (Original):   A method according to claim 25, wherein said step of providing at least one sample comprises the step of utilizing a slide.

27.   (Currently amended): A method according to claim 25 [[or 26]], wherein said step of providing an optical sensor comprises the step of utilizing a camera.

28.   (Currently amended): A method according to claim 25 [[or 26]], wherein said step of providing an optical sensor comprises the step of utilizing a CCD element.

29.   (Original):   A method according to claim 25, and further comprising the step of storing an image relevant to a process of staining tissue samples.

30.   (Original):   An automatic staining apparatus comprising:

at least one reagent container;

at least one sample;

a robotic element adapted to affect said reagent container and said sample;

a control element to which said robotic element is responsive;

a multifunction optical sensor configured to sense at least one element in said automatic staining apparatus; and

a computer image biological analysis element.

31.   (Original):   An apparatus according to claim 30, wherein said at least one sample comprises at least one sample accommodated on slides.

32.   (Original):   An apparatus according to claim 30, wherein said optical sensor comprises a camera.

33.   (Original):   An apparatus according to claim 30, wherein said optical sensor comprises a CCD element.

34.   (Original):   An apparatus according to claim 30, and further comprising a stored image relevant to the process of staining tissue samples.